

THE GRYPHON



Owners manual Trident II

This speaker system consists of a combination of different materials that respond to temperature and humidity. For prolonged life, maximum performance and reliability, we recommend that it is placed in a room without any large variations in temperature and humidity.

本揚聲器系統以多重物料制作，可能受溫度和濕度影響。請將本揚聲器系統放置於溫度和濕度比較穩定的房間，以確保其最佳表現、耐用性及可靠性。

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**A Message from the Founder
By Flemming E. Rasmussen,
Gryphon Audio Designs**

As the thirtieth anniversary of Gryphon Audio Designs looms large on the horizon, it is as good an occasion as any to look back and reflect on how we came this far, on what we have achieved and what we have learned.

It is now widely acknowledged that Gryphon has built its reputation on a singularly iconoclastic approach to the design of luxury High End home audio equipment, perhaps best described in the kind and generous words of audio critic Ken Kessler, “a code of perfectionism, the likes of which I’ve only ever seen at the Bugatti atelier in Alsace or at the great watch houses in Switzerland. It is the result of not accepting the notion of compromise, on any level.”

In retrospect, the history of Gryphon Audio Designs has been an exploration of the complex art of simplicity, taking as our conceptual foundation the words of Albert Einstein, widely referred to as Einstein’s Razor: “The supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience.”

Fortunately, during the Gryphon’s lifetime, dedicated music lovers in ever increasing numbers have come to demand more from their home entertainment systems in recognition and appreciation of the crucial musical contribution of natural, un-doctored, realistic sound that conveys the integrity and full emotional impact of the original performance.

More and more, serious listeners recognise the validity of the Gryphon approach: A loudspeaker must not be an instrument or an interpreter with a voice of its own, only a neutral conduit that lets us hear what is there, no more and no less, for better or for worse.

Trident II

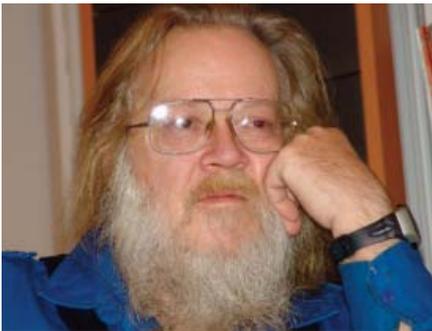
Rarely have we designed a speaker project, that from the very beginning had something "right" about it. It was like this speaker was trying to show us the direction to follow, in its creation, from the organic shaped individual baffels to the exceptional marriage between the AMT and the cone drivers. Everything fell into its right place and no drivers needed "agressive coaching" (read: lots of addittional correcting components) to shine in all its glory. This feeling of "right" is what people comment when they hear this speaker, they praise its seamless and coherent presentation with amazing dynamics and detail, but always in a way that makes you appreciate the music the way it should be, something that moves us and let us escape into a another world for a while.

Flemming E. Rasmussen
Ry, Denmark, March 2014

The Final Frontier

Having earned a global reputation for technological mastery and unsurpassed excellence in audio amplification and CD playback, it was a natural evolutionary move for Gryphon Audio Designs to broaden its scope and apply the uncompromising Gryphon philosophy to the final link in the chain. But this decision was by no means made on the spur of the moment.

The Gryphon loudspeaker story begins with a chance encounter between Gryphon founder Flemming E. Rasmussen and Danish loudspeaker legend Steen Duelund, a Danish mathematician who dedicated his life to the advancement of loudspeaker theory. Duelund was a man on a mission whose many theories and discoveries continue to inspire professional designers and DIY speaker builders long after his passing.



Steen Duelund

On a strictly informal basis, they began an in-depth exploration that would take full advantage of Rasmussen's extensive experience in design and manufacturing to transform Duelund's theories into real-world products with scant regard for such minor details as pricing, parts availability, prevailing attitudes and preconceived notions.

Imperfect Drivers

Duelund's revolutionary theories on constant phase in crossover networks can be summed up in a single statement: "All drivers must be in phase at all times at all frequencies." Following this theoretical "Eureka," the hard part then became making that happen with a real loudspeaker in a real room. The first step was to acknowledge that the greatest challenge facing loudspeaker designers was the simple fact that dynamic drive units are by nature flawed and compromised.

Many driver designs defy all sound design principles, because they are the result of penny-pinching exercises under heavy market pressure to deliver “acceptable” performance at the lowest price. There is little motivation to allocate resources to making drivers truly the best that they can be.

In order to succeed in their mission, now assigned the working title Project 30, Rasmussen and Duelund returned to first concepts, literally building by hand individual drivers with baskets that did not introduce compression, handmade multi-laminate cones, exotic home-brew coatings, adjustable wire suspension to replace the conventional spider, heavy-duty magnetic systems, ventilated pole pieces, machined phase plugs and special surrounds to optimize the transition between cone and baffle. All edges were beveled for a deliberate aerodynamic profile. Double wiring was employed on the cones to ensure perfect symmetry. The list of breakthroughs goes on.

Every aspect of driver design, assembly and function was thoroughly investigated without prejudice and with scant respect for received wisdom, which often proved to be ill-founded dogma formulated by individuals promoting their own specific agendas.

The end result was drive units with extremely low Q, high power handling, no dynamic compression and a linear piston range that pushed back the limits of driver design.

In order to live up to the uncompromising design goal of perfect phase at all times at all frequencies, the enclosure incorporated a concave curved front to form a direct angled, time-aligned system with identical distance from the listener to the acoustic centre of each driver.

The finished loudspeaker can only be described as an open window, utterly transparent to the original recorded event with equally remarkable dynamic headroom that re-creates the true power and full weight of live music, both in details such as a drum rimshot and in the effortless expansion of an orchestral crescendo in a large-scale symphonic piece.

Gone were the sluggishness and “whitewashed” uniformity typical of loudspeakers with complex crossovers where 60% of the components are dedicated to the thankless task of compensating for the basic imperfections of inferior drivers. In such speakers, the crossover becomes a virtual “black hole,” sucking up energy instead of conveying it to the drivers.

At this stage, a respected German audio reviewer visited Gryphon. In the Gryphon listening room, he auditioned Gryphon amplifiers using the company’s usual reference loudspeakers, a well-known American full-range system. Suitably impressed with what he heard, he happened to notice some large enclosures concealed beneath a sheet off to one side.

His curiosity aroused, he persuaded Flemming to hook them up for an off the record listening session with the clear understanding that this was not a commercial product.

To make a long story short, the reviewer had a revelatory experience and rumours quickly began to circulate about a mystery speaker that Gryphon were keeping to themselves.

Despite the unique quality of the project, Rasmussen decided not to pursue it as a commercial venture, using the loudspeakers only as a valued tool in the company's electronics development work. The decision was based on the fact that the many hand-tweaked, non-standard components made it a slow, expensive and exceedingly complex system to build. Too many of its geeky, off-the-wall solutions were conceived and executed without regard for the real-world problems of consistent, day-to-day production and long-term reliability. Moreover, this was at a time in the High End industry when electronics manufacturers and speaker makers politely played in their own sandboxes, rarely invading each other's turf. Today, things have changed considerably.

The Cantata Reference Monitor System

By the millennium, Gryphon had become firmly established as a major international player with a range of amplification components and CD players widely regarded as among the very best in the esoteric world of High End audio.

Gryphon innovations included the world's first single-chassis CD player with onboard upsampling and critical system enhancements such as the acclaimed Exorcist, the world's first system demagnetizer, as well as a range of cables and accessories.



The Gryphon Cantata

Still, demand for a Gryphon loudspeaker continued to grow, as distributors, dealers and enthusiasts wanted to share in the great secret. Electing not to fall into the same trap as so many others who rush to market with a "me, too" loudspeaker system in an attempt to cash in on the goodwill of an established electronics brand name, Rasmussen decided to address an unacknowledged problem that he had frequently observed: Most audiophiles select loudspeakers that are simply too large to work well in their room and wind up fighting a losing battle against room acoustics with inadequate tools.

Rasmussen already knew what they would have to learn from bitter, expensive experience: Not even the best amplifier and room treatments can turn things around once you have installed the wrong speaker in the wrong room. To help enthusiasts with limited living space overcome these obstacles, a more compact loudspeaker became Gryphon's top priority, because it was felt to fill the greatest need.

Driven by his decade-long vision of a loudspeaker that would finally get things right, Rasmussen conceived the Gryphon Cantata to set new standards for sonic performance in a two-way system of modest dimensions. With Steen Duelund's theories as inspiration, acoustician Lars Matthiesen Rasmussen set about the task of translating theory into workable, practical solutions. Rasmussen and the Gryphon design team created the product's conceptual and physical framework, while Rasmussen and Gryphon chairman Valdemar Børsting were responsible for final voicing. Exploiting Gryphon's home court advantage in the field of electronics, it was natural to incorporate a high tech active Q control, a concept introduced in the 1950's by Linkwitz and Greiner, but never successfully implemented.

The Cantata received a rave reception from press and owners alike, winning numerous awards, including Product of the Year from UK magazine HiFi+. Gryphon was immediately accepted as a loudspeaker manufacturer and praised for tackling the endeavour with innovative flair and bravery.

Gryphon Poseidon

The development and, in particular, the actual production of Cantata with its innumerable tailor-made components gave Gryphon valuable experience and the courage to revive and complete Project 30. Auditioning confirmed that the system had been well ahead of its time. Equally important, Gryphon's accrued experience and good working relations with driver manufacturers now meant that the project could be fully realised to an even higher standard.

Special drive units would still be required, but Gryphon's unquestioned High End stature and the success of the Cantata attracted the interest of an internationally respected Danish driver manufacturer willing to build drive units to Gryphon's strict specifications. Jensen Capacitors manufactured inductors and capacitors to Gryphon's specifications. A German manufacturer supplied a surround that matched the cone geometry. The list of specialists involved continued to expand.

As was once the norm in the High End, Gryphon is still run by enthusiasts able and willing to take risks and push back boundaries, not because the marketplace demands it or because anyone asked them to, but out of sheer curiosity as to what awaits in the uncharted territories where no one has gone before.

Consequently, Project 30 began to grow in scope and ambition, bearing out Flemming E. Rasmussen's bold declaration, "The reason we make products is to finance our research and development. This is our true passion."

In August 2004, the final fruit of Project 30 was unveiled, Gryphon Poseidon. Lavishly built by even the most extravagant High End standards, the exquisitely finished Gryphon Poseidon offered expressive musical communication and a gripping sensation of involvement in the performance as it unfolds.

Gryphon Poseidon redefined loudspeaker performance in such crucial areas as sonic continuity and integrity, allowing the listener to create a more vivid mental image of the musical event with a greater sense of wholeness and consummate ease.

Followed by the more accessible Trident, Atlantis and Mojo systems, Poseidon immediately established Gryphon Audio Designs as a force to be reckoned with in the field of High End loudspeakers.

Enter the Trident II

Now, Gryphon Trident II builds on what has gone before, exploring the complex art of simplicity even further in the service of music.

The sculptural towers are built just down the road from Gryphon by a woodworking company specializing in custom design work for recording studios and musicians. Their staff includes several musicians, who combine a perfectionist approach to their craft with an open mind to untraditional solutions. Rasmussen frequently tested the limits of their open-mindedness in executing an undertaking on the grand scale of the Trident II, while maintaining structural and aesthetic integrity.

Assembled using proprietary techniques, Trident II offer a service unique in the audio field: access to virtually unlimited personalised custom finish options not only at the time of original purchase, but also at any later date to keep pace with evolving personal style and interior décor.

Available panel options are limited only by the customer's imagination. However, requests may not include rain forest wood or any endangered, restricted or illegal materials.

The Quest for Simplicity

No single drive unit is capable of properly reproducing the entire audible range from 20 Hz to 20 kHz. No diaphragm can move fast enough to reproduce 20 kHz overtones and, at the same time, move enough air to reproduce deep bass at concert hall levels.

For this reason, loudspeaker manufacturers devote considerable resources during product development to selecting specialised drivers for each frequency section and, more importantly, to designing a crossover network to coerce them all to work together. To do so, the frequency spectrum is sliced up electronically and each piece is directed to the appropriate driver where things are hopefully reassembled to form a coherent acoustic event.

It is at this point that so much can go wrong.

Are the selected crossover components good enough to do their job without signal loss or distortion?

Are the drivers sufficiently similar in tonal quality and speed that they can create the illusion of a single coherent source of sound?

Does the crossover network properly compensate for the drivers' varying sensitivities so that the resulting sound is correctly balanced from top to bottom?

Have the crossover points between the drivers been properly tuned for undetectable, seamless transitions with no frequency dips or peaks or phase anomalies?

Is the cabinet designed to prevent resonances and deleterious interaction between the drivers?

The Gryphon Audio design team possesses unique experience in the solution of such arcane audio problems, having learned the most valuable lesson of all: that eliminating a problem before it arises is always far better than trying to solve it.

Or, to put it in the vernacular – An ounce of prevention is worth a pound of cure.

Amplifier module for 1 bass tower



In addition to the advantages of an active bass system with purpose-built amplification designed for optimal operation with the drive units and with the array of adjustable parameters, active bass allows the owner to select a dedicated amplifier for the high frequency panels without having to worry about the power demands of the massive Trident II bass system.

Conventional passive loudspeakers must be designed for compatibility with a wide range of commercially available power amplifiers and active subwoofers are typically driven by an off-the-shelf “digital” power module that could fit in one hand.

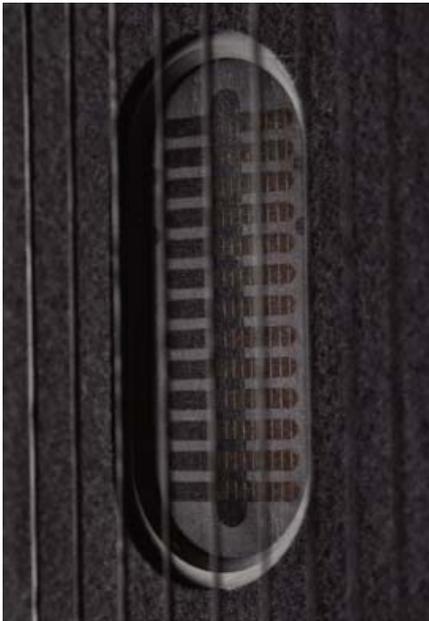
By way of comparison, the purpose-built, onboard Trident II power amplifier weighs in at 35 kg per tower!

Naturally, ideal integration with the Trident II mid and high frequency drivers is assured.

To achieve this ambitious goal, the amplifier incorporates sophisticated Q Control circuitry to fine-tune bass response as well as additional adjustments to ensure ideal room interface. The bass remote control allows adjustment of bass level, Q, low cut and other parameters directly from the listening position.

The Trident II system's low-frequency cut-off is room-dependent and is also a result of the user-selected Q setting, but useable room response from the total 14 drivers will cover the range from 16 Hz to 27 kHz.

The amplifier offers Standby mode and provides effective driver protection via a comprehensive, non-invasive system that monitors all functions more than 100 times per second. The singular bass performance of the Gryphon Trident II system heightens awareness of rhythmic subtleties and nuances as it immerses the listener in music's rhythmic power.



AMT tweeter

AMT tweeter

The high-frequency range is handled by an Air Motion Transformer that move air by driving an extremely low-mass folded sheet in a semiperpendicular motion via a powerful magnetic field. Following extensive research into materials and diaphragm geometry, the Trident II AMT employs a heat-resistant Kapton film base, aluminium conductor traces and an innovative fold geometry.

Because of their large surface area and pleated structure, the Air Motion Transformer move a large air volume with minimal diaphragm motion for lightning fast transients with flat frequency response well beyond the audible range with negligible distortion and a total absence of compression.

Extensively modified Midrange drivers

The woofers and the tweeter is complemented by two extensively modified Danish 5½" midrange units in a symmetrical vertical array for an ideal point source presentation of the musical event with unparalleled speed and accuracy.

Passive crossover

The radical passive crossover network design ensures ideal phase at all frequencies, a perfect result achieved only by a Gryphon loudspeaker. The crossover consists of the finest Duelund and M-Cap supreme components fitted on a suspended anti-vibration panel. The Gryphon active approach also provides permanent 28V biasing of crossover capacitors to eliminate crossover distortion at zero electric potential. Originally introduced in the Gryphon Cantata, the considerable benefits include improved stability, body, tonal colour and image coherence.

The transparency, speed and spine-tingling musical realism of the Gryphon Trident II system set new standards for audio virtues such as resolution, timbre and soundstaging, illuminating the music in ways previously experienced only occasionally in glimpses or fragments of a speaker's overall performance, but rarely in a true full-range system.

Like every Gryphon product, Gryphon Trident II is designed by Gryphon founder Flemming E. Rasmussen and manufactured in Denmark. The Gryphon Trident II is a declaration of love to music and a finely crafted sculptural element to grace even the most luxurious of surroundings.

Trident II set-up

Unpacking

The Trident II system arrives in two large and heavy wood crates. *The system will be set up by your dealers or Gryphon distributor. Do not attempt to unpack the system yourself. We know the almost uncontrollable urge to get the system up and listening, but the Trident II is a complex system that requires a predefined set-up by experts with special tools and severe damage can be done to your investment – and back - if mistakes are made.*

The two crates include

Trident II Master cabinet

- 2 Stands w/feet
- 1 Display unit
- 1 Remote control
- 1 Assembly guide
- 2 Blocks of foam for support stand
- 1 Cloth for support stand
- 1 Assembly guide

Trident II Slave cabinet

- 2 Stands w/feet
- 1 Assembly guide
- 1 Book and brochure
- 1 Owners' manual
- 1 Trident II accessory box
 - 1 Data link cable
 - 2 Powercords
 - 1 hex socket key, 6 mm
 - 1 hex socket key, 5 mm
- Screws

A box in a Box

The differences between rooms are often bigger and more profound than the differences between speakers. This is the reason why a speaker with a great subjective review can disappoint greatly when placed in another room. Often it is more a test of how a certain speaker interacts with a certain room, rather than the actual quality of the speaker.

In short, you listen to the combination of speaker and room.

In real life it is easier to buy a new speaker than to buy a new room. Depending on the individual situation – is it a dedicated sound room or is it a living room with other considerations to take and respect – but acoustics can be greatly improved in most rooms and can basically be divided into 2 directions – absorption or diffusion.

a. Absorption is reducing the sound level at certain frequencies.

b. Diffraction is scattering reflections and removing negative effects of reflections from the walls that interfere with the direct sound from the speaker system

At Gryphon we are biased towards diffusion as we find that absorption in its extreme is killing dynamics and live feeling and is often pushing the system to hard because of the loss of sound level. Damping may be required to control an excess of energy in a certain frequency area. Diffusion can not do that. It is not possible to give plug and play directions to any speaker system. A large degree is the individual – and often minute – adjustments of position of speaker and listening position that is crucial for optimum performance.

In the following we will describe a starting- point set-up based on our experience and it should only serve as a guideline. Keep in mind that the setup that sound right – is right.

As speakers run in, minor adjustments may be required for final set-up.

The bass is a huge challenge in set-up and reason for much aggravation,. However, the Trident ll active woofer with its adjustments to the room is making that part more easy.

In our reference room (60 sq m) we do not have any damping (absorption) behind the speakers but some diffusion on this and more on the rest of the walls. Often some damping on the back wall may be the right solution – the live / dead end philosophy – If ceiling is low, damping at first reflection is suggested. For a ultimate-take-no-prisoners- approach, the traditional table in front of the listener should be avoided as it can generate reflections just as the close ceiling.

Notes on sound reflections.

Behind speaker:

The farther away the system is from back wall, then less diffusion (if any) is required.

Side walls

Diffusion should be used (if any) at sidewalls where first reflection will enter – in this example between 1/3 and 2/3

Behind listener

If distance is large little or perhaps moderate damping can be applied. If it is closer diffusion can be applied, could be combined with damping.

Warranty

The Gryphon Trident II is warranted against failures arising through faulty workmanship and materials for a period of 2 years from date of purchase.

The warranty is not transferable.

This warranty is only valid in the country where the product was purchased.

All claims under this warranty must be made to the distributor in the buyer's country by returning the unit securely packed in the original box with all accessories, postage/freight prepaid and insured. The unit will be repaired or replaced at no charge for parts and labor.

This warranty remains valid only if the serial number of the unit has not been defaced or removed and if repairs are performed only by authorized Gryphon dealers or distributors.

The warranty does not cover damage due to misuse, accident or neglect. This warranty is not valid if the operation voltage of the product has been changed.

The distributor or manufacturer, Gryphon Audio Designs, Denmark, retains the exclusive right to make such judgement on the basis of inspection.

The retailer, distributor or manufacturer of the Gryphon shall not be liable for consequential damage arising from the use, misuse or failure of this product, including injuries to persons or property.

To qualify, the enclosed warranty registration card must be filled out and returned to the manufacturer within 10 days of purchase.

Service, warranty claims or questions

Please contact the dealer where you purchased the product

SERIAL No. _____